ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: June 23, 2005 / 10:00 a.m.

Site Contact(s): K-H: Karen Wiemelt, Susan Serreze

Phone: 303-692-2035 – CDPHE
303/312-6312 - EPA
303/966-4226 – DOE

Agency: CDPHE: Harlen Ainscough, Tracy Hammon, Dave Kruchek, Carl Spreng
EPA: Sam Garcia, Robyn Blackburn
DOE: Norma Castañeda

Purpose of Contact: A meeting was held on June 23, 2005 to discuss the Draft Closeout Report for IHSS Group 500-3 and the Draft Data Summary Report for IHSS Group NE-1.

Discussion: See meeting minutes below.

Contact Record Prepared By: Susan Serreze

June 23, 2005 Comment Resolution Meetings
For
Draft Closeout Report for IHSS Group 500-3
Draft Data Summary Report for IHSS Group NE-1

A meeting was held on June 23, 2005 to discuss the Draft Closeout Report for IHSS Group 500-3 and the Draft Data Summary Report for IHSS Group NE-1.

Attendees
CDPHE: Harlen Ainscough, Tracey Hammon, Dave Kruchek, Carl Spreng
EPA: Robyn Blackburn, Sam Garcia, Todd Bechtel (Greystone)
DOE: Norma Castaneda
K-H Team: Karen Wiemelt, Joe Allen, Julie Keating, Karmen King, Susan Serreze

II. Report Status

Issues

1/17

No Sitewide issues were discussed.

Specific Comments

Draft Closeout Report for IHSS Group 500-3
The attached written comments were received from EPA and CDPHE. The following resolutions were agreed to:

EPA Comments

All comments will be addressed as stated. There was no further discussion.

CDPHE Comments
The attached written comments were received from CDPHE. There was discussion on several comments as noted below. All other comments will be addressed as stated.

1. This was a difficult excavation and was actually very small. The size of the excavation shown on the figure is misleading because it includes the layback. The map will be changed to better reflect the size of the excavation,
2. (Also 11 and 12) At the Room 130 excavation there were a lot of field screens. Samples were collected from the excavation surface and in the walls. There was a tunnel structure on the eastern end and no samples were collected at that location.
3. Short-term erosion controls will be added to the Stewardship Section
4. Waste disposal locations will be in the D&D closeout report.

Draft Data Summary Report for IHSS Group NE-1

The attached written comments were received from CDPHE and EPA. There was an extensive discussion on the Ponds that included the following:

- Dates of sampling episodes;
- Sampling of different horizons;
- Sampling of the soil/sediment interface;
- Direct comparison of data to ESLs;
- Interaction with the CRA;
- What is included in the analysis, ponds or the AEU; and
- Surface water is not included.

The resolutions of this meeting include the following:

- A direct comparison of data to ESLs in inappropriate because ESLs are not action levels.
- Continue the discussion on data adequacy on June 28, 2005.

Other Issues

There were no other issues.

V. Meetings

The next meeting will be held on June 28, 2005 at 10:00 AM in the Breckenridge Room.

EPA Comments
Draft Closeout Report
IHSS Group 500-3
Building 559 Area
June 2005

Specific Comments

Page 50, Section 8.3. This section states "IHSS Group 500-3 will be evaluated as part of the Accelerated Action Ecological Screening Evaluation (AAESE) and Sitewide Comprehensive Risk Assessment (CRA)." According to several discussions concerning the CRA, the dataset used was from 1991 through December 2004. According to the Table 8 on page 37, it appears that some of the characterization and all of the confirmation data will not be included in the CRA. If this is the case, please state in this Section.

Page 51 Section 12.0. Please state that all data considered NLR will be flagged as such and kept in the database.

CDPHE Comments

B559 – ER Closeout Report for IHSS Group 500-3

Comments:

1) Exec Summary, 5th paragraph – Please modify the text which states that "the area was regraded and reseeded", to state that after completion of all D&D activities (including railroad activities) in this area, it will be regraded and reseeded.
2) Figure 1 – Please modify the Key to properly identify the demolished and standing buildings.
3) Section 2.1.2 – Please modify the last sentence to properly indicate the facilities to which the waste was pumped. At a minimum, this should have included B774, since B371 was not available in 1969.
4) Section 2.1.3 – Please provide a figure that identifies/shows all of the infrastructure discussed. This should include the "pump house", "process waste tank valve pit", "process waste tank pit" south of B559, the "footing manhole", and "the manhole next to the southwestern corner of Building 559".
5) Section 2.2: On page 18, second paragraph, last sentence, the Division suggests that the text read, "building were re-designated as subsurface samples rather than surface samples beneath the slab."
6) Section 3.2, 5th bullet – The requirement for deeper than 3 feet is supposed to be 1 nCi/g below 3 feet, not 3 nCi/g.
7) Section 3.3 – Please include discussion regarding the final disposition of the foundation drains, the manways and manholes in this area, the final disposition/plugging of the storm drains and sanitary drains, the final disposition of all other inground utilities (such as gas, electric, etc).
8) Figure 6 - Please show all infrastructure removed and remaining (as discussed above), and the locations of disrupted/plugged lines.
9) Section 4.0: Please justify the collection of only one, basal, confirmation sample to the exclusion of sidewall samples in an excavation measuring approximately 10x15 feet. Were in process samples, including screening samples, collected that warranted the excavation of that breadth (i.e. more than a bucket full)?
10) Figure 7: Please justify not collecting confirmation samples at the east and west terminations of the Room 130 excavation.
11) Also, please justify not collecting a confirmation sample at the east end of the Air Tunnel excavation and why the western confirmation sample is not directly at the sidewall.
12) Figure 8 and 9: Please show the boundaries of the respective excavations relative to the residual contamination data points.
13) Screen 4 – Please identify that although the levels do not exceed the action levels, this does not mean that the residual levels of COCs (particularly Rads) do not pose a potential problem. As we have seen throughout RFETS, the levels of remaining COCs, although below action levels, can adversely impact surface

water quality/standards. As such, this should be properly recognized and addressed in this discussion for possible future concerns.

14) Section 8.1 – Need to include the removal of the asphalt and other infrastructure/utilities, and discuss the location and condition of remaining infrastructure, such as the manways and/or manholes, drains, lines, etc.
15) Section 8.2 – Need to add controls for surface runoff.
16) Section 10 – Please add the specific disposal location(s).
17) Figures – Please remove unnecessary information, specifically "Dirt Roads", which only clutter these figures, and add necessary information, such as the locations of infrastructure being discussed.

Colorado Department of Public Health and Environment

Hazardous Materials & Waste Management Division

Comments

Draft Data Summary Report

for

IHSS Group NE-1

(IHSS NE-142.1 –Pond A-1

IHSS NE-142.2 –Pond A-2

IHSS NE-142.3 –Pond A-3

IHSS NE-142.4 –Pond A-4

IHSS NE-142.12 –Pond A-5

IHSS NE-142.8 –Pond B-4

IHSS NE-142.9 –Pond B-5

IHSS NE-142.11 –Pond C-2)

June 2005

General Comments:

1. This document, an NFAA request, is not supported by a IABZSAP SAP Addendum and subsequent statistical or biased sampling data of the actual pond sediments consistent with Interval A, B, C, D, etc. protocols. Please explain the basis (i.e., RFCA basis or subsequent agency concurrence) or other rationale for this omission.

2. Narrative descriptions of older data, pre 2004, have been omitted.

3. Americium 241, as a result of Building 771 demolition, was introduced into Pond A-4 at activity levels that required the water to be treated prior to release. With the unknown residence times, the potential for Am 241 to have impacted pond sediments should not be discounted. The need to sample the upper veneer, not the entire A-interval (0.0-0.5 feet) of A-4 pond sediments is indicated.

Specific Comments:

4. **Section 2.1.1:** The recent contamination event should be included in the discussion of historical events of the A-Series Ponds. Include the discussion of the sediment sampling, source evaluation, and migration route.

5. **Section 2.1.2:** Please include recent removal actions in Ponds B1-B3. What data has been collected to demonstrate that the disturbance did not impact Ponds B-4 and B-5 covered in this document?

6. **Section 2.1.3:** The reference in the second paragraph should be to an EPA approval letter, not the DOE NFAA justification document as shown in the references.

7. **Section 2.2:** This section, page 6, discusses only the CRA Target Sampling for Ponds A-1 and A-2, not the entire data set indicated by the various tables. The added discussion must show, conclusively, that data were adequate spatially and vertically to forego creation of a SAP addendum. If not, additional sampling will be required to support an NFAA decision.

8. Additionally, the discussion in the third paragraph that the 0.0-1.5 interval was lost implies that no data for A-interval equivalents exists for the entire A-1 data set.

9. When adequate surface soils data are available, a discussion similar to an SSRS for subsurface data should be added, especially if no actions are taken relative to WRWs.

10. **Figure 2:** The distribution of sample locations in Ponds A-1 and A-2 appears concentrated at the downstream side of each pond, leaving a data gap at the upper end of each pond outline on this map.

11. **Figure 3/Table 2:** The dates of sampling for Pond A-4 are in 1992. Given that the ponds are used for settling Pu/Am and the recent 771drainage incident resulted in contaminated water residing in Pond A-4 for several months these data cannot be presumed representative.

12. **Section 4.0:** A better approach would be to state, "An environmental pathway to surface water is inherent to the ponds; however, the quantity of COCS within the ponds to impact surface waters is low."

13. **Appendix A, Section 1.0:** Please note that Pond A-5 is not part of the NWC AEU, why it is not, and the relevance of its exclusion from the Appendix A assessment.

14. On page 5, the elimination of mercury from the assessment is discussed. Even though mercury was not "significantly greater" than background, eliminating ("splitting hairs") this particular COC rather than carrying it forward to a quantitative evaluation is unfortunate. Please add this one additional constituent, it would be only 1 more of 31 COCs.

15. In the first paragraph of page 6, using the MDC as the default EPC in the absence of sufficient data, when there has been no accelerated action sampling attempted to obtain sufficient data, is unacceptable. The Division understands such necessities occur when data collection is attempted, but when no attempt was made to collect the data, further sampling is appropriate.

16. In the fourth paragraph of page 6, the December 2004 data is noted as the data used in the evaluation. The statement is incorrect as data from years earlier were used and IA overlap areas were excluded on the basis of that data.

17. On page 7, first narrative, using the MDC, when less than the UTL, negates what a UTL is supposed to indicate. If the data set was large enough to perform statistics, but too small to capture a UTL equivalent concentration or activity, the EPC has been under estimated. Without accelerated action sampling, using this current protocol is unacceptable.

18. On page 7, first bullet, it is unclear why the 95 UCL was used when the 95 UTL are relative to the 90 UCL. It appears to be a more conservative, but less consistent approach, please clarify the rationale.

19. On page 11, please explain why the 590 ug/kg total PCB concentration in the A-2 data is not evaluated under the bullets, but a conclusion is made, page 12, that the PCB does not "pose a risk to aquatic populations within the ponds."

EPA Comments
RFETS Data Summary Report for IHSS Group NE-1
Evaluation of Potential for Ecological Risk

The following issues are presented for discussion purposes:

1. **Pond-Specific Evaluation:** An ecological risk evaluation was not performed for each pond individually using the accelerated action approach. Rather, the ponds were evaluated as part of the entire AEU drainage using the ecological contaminants of potential concern (ECOPCs) selection process detailed in the CRA Methodology. Thus, data from the series ponds were compiled with other AEU-specific data and screened for ECOPCs. One disadvantage of this approach is that a contaminant specific to a pond could potentially be overlooked in the AEU screen. Although not clearly stated in the document, our understanding of the intent of the ecological evaluation portion of the Data Summary for the NFAA is to identify whether the IHSS (i.e., the ponds) pose obvious risks to wildlife during this accelerated action phase of the project. While the appendices present a good summary of the results of the AEU using the CRA Methodology, the Data Summary does not provide a clear and transparent process for evaluating whether there is a need for an accelerated action based on ecological risk. It is recommended that the ESLs be presented in tables and figures in the same manner as is done for the human health evaluation. The appendices are then considered suitable for providing the supporting evidence/overview in the context of the AEU population level evaluation.

2. **Data Used in Ecological Screening:** The underlying datasets used for the ecological screen are not clear. The data which are being used to make decisions should be clearly summarized, and these data should be adequate to represent current conditions of the exposure interval in the ponds. The text indicates that data are considered adequate as presented in Volume 2. However, comments on Volume 2 indicated that the information presented was not detailed or specific enough and revisions to Volume 2 have not yet been submitted for a determination of data adequacy. In addition, the data adequacy in Volume 2 is determined for the AEU, and not based on whether data are adequate for evaluating individual ponds. Please provide a summary description as to how the data are considered adequate for characterizing the current status of the ponds.

   Conclusions for ponds are based on the assumption that the sediment data and sediment toxicity tests from 1992 are representative of current conditions. The potential that accelerated actions completed in the IA and in upgradient ponds (i.e., B-1, B-2, and B-3) may have altered sediments in the ponds should be discussed to determine if the historical available data are still considered relevant for assessing potential risks to ecological receptors in these ponds before rendering a decision on accelerated actions.

   For the ecological evaluation, it appears that data collected after December 15,

2004 were not included in this evaluation while some results that are no longer relevant due to previous accelerated actions (e.g., Ponds B-1, B-2, B-3) were included. In addition, it is not clear why data collected as part of the 2004 CRA Targeted sampling were evaluated separately in Attachment 3 of Appendices A and C. It is recommended that one consistent data set be presented to describe the current conditions of the ponds, then used for both the human and ecological evaluation.

3. **Pond C-1:** The text states that a No Further Accelerated Action (NFAA) for Pond C-1 was approved in 2004 (DOE 2004a). However, the Summary provided in the 2004 NFAA for Pond C-1 indicates that ecological effects will be evaluated in the Accelerated Action Ecological Screening Evaluation (AAESE). Since it was decided that the AAESE would not be conducted, the ecological screening for Pond C-1 should be evaluated in this document.

4. **Surface Water Evaluation:** The NE-1 report only provides an ecological evaluation based on direct contact exposures of aquatic benthic invertebrates to bulk sediment. No ecological evaluation based on direct contact exposures of aquatic receptors (fish and benthic invertebrates) to surface water is provided. The intent of evaluating only sediment exposures is not clear since receptors using the pond will be exposed to both surface water and sediment. In addition, potential risks to wildlife from ingestion of aquatic prey items are only addressed qualitatively for a subset of the series of ponds. Decisions based on only a sub-set of exposure information introduces a high level of uncertainty and is not recommended. It is recommended that the surface water exposure pathway and additional wildlife ingestion exposures be added.

5. **Sediment Threshold Screening Levels:** The AEU hazard quotient (HQ) evaluation includes a comparison of exposure point concentrations (EPCs) to "threshold-based" sediment ecological screening levels (ESLs). These threshold-based sediment ESLs were not presented previously in the CRA Methodology (DOE 2004). The current level of detail presented in Attachment 2 documenting how these threshold-based ESLs were derived is not sufficient. The derivation procedure and basis of these threshold-based sediment ESLs needs to be documented in a separate Contact Record for approval by the Agencies. Conclusions regarding accelerated actions for the series ponds presented below are subject to change if the sediment threshold-based ESLs presented in Attachment 2 are determined not acceptable.

6. **Exposure Point Concentration:** After the HQ evaluation, maps are only provided for ECOPCs where **both** the 95UTL and 95UCL exceed the ESL. However, in accord with previous agreements, all ecological receptors with small home ranges (this includes benthic organisms) must be screened using the 95UTL, not the 95UCL. Thus, any ECOPCs for which the 95UTL exceeds the ESL should be mapped regardless of whether the 95UCL exceeds the ESL.

A-SERIES PONDS

Ponds A-1 through A-4 (located in the North Walnut Creek AEU)

Aquatic Receptor, Direct Contact with Sediment: The ecological screen identified antimony, fluoride, zinc, PAHs, and PCBs as sediment ECOPCs for the North Walnut Creek AEU. Based on a review of the AEU maps, the following pond-specific ECOPCs were identified:

- Pond A-1: antimony, PAHs, PCBs
- Pond A-2: PCBs
- Pond A-3: antimony, zinc, PAHs
- Pond A-4: antimony

While the HQ evaluation suggested that low to moderate risks were possible from these ECOPCs, sediment toxicity tests for the A-series ponds (presented in DOE, 1995 Table N5-5) indicated that benthic invertebrate survival and growth[1] were not likely to be adversely impacted. The aquatic community studies for the North Walnut Creek AEU indicate that macroinvertebrate populations appear to be healthy, but were limited due primarily to fluctuations in flow and available aquatic habitat. Based on these statements, there appears to be a low risk potential in the A-series ponds for aquatic receptors from direct contact with bulk sediment, and No Further Accelerated Actions (NFAA) are necessary based on an evaluation of this exposure pathway.

Aquatic Receptor, Direct Contact with Surface Water: An ecological screening evaluation for surface water was not presented. No conclusions can be drawn regarding potential risks to aquatic receptors from surface water in Ponds A-1 through A-4.

Wildlife Receptor, Ingestion of Prey Items: While a formal ecological screening evaluation for this exposure pathway is not presented, a qualitative assessment of potential risks to wildlife from PCBs is provided. Although Appendix A does not clearly identify from which ponds tissue data were collected, Attachment 3 in Appendix B states that only Pond A-4 was sampled. The text states that measured tissue levels of PCBs in this pond did not demonstrate any bioaccumulation to levels of concern to wildlife. Unfortunately, no quantitative results for PCBs are provided, no discussion of other analytes in dietary items is presented, and the nature/source of the effects thresholds cited is not discussed (see request for additional information above). Based on the available data as presented, and if the Agency agrees with the conclusions (which will be based on a review of the supporting document used to make the conclusions for this line of evidence), it appears that that potential risks to wildlife in Pond A-4 are likely to be low. However, measured sediment data show that PCB levels are highest in Ponds A-1 and A-2, but the bioaccumulation potential of PCBs into aquatic prey items were not assessed at these ponds. Because aquatic tissue concentrations were not measured for Ponds A-1

[1] Growth results were only available from the *Hyalella azteca* tests. While *Hyalella azteca* survival was evaluated for all five A-series ponds, *Chironomus tentans* survival was only evaluated for Ponds A-3 and A-4.

through A-3, no conclusions can be drawn for Ponds A-1 to A-3 regarding potential risks to wildlife from ingestion of prey items in these ponds.

Pond A-5 (located in the South Walnut Creek AEU)

Aquatic Receptor, Direct Contact with Sediment: Although Appendix B does not specifically identify Pond A-5 in the ecological risk evaluation for the South Walnut AEU, it is possible to draw conclusions for this pond based on a review of the maps provided. All of the sediment samples from Pond A-5 were below the ESL or were non-detect. Although not discussed, sediment toxicity tests (presented in DOE, 1995 Table N5-5) for Pond A-5 showed 89% survival for *Hyalella azteca* (statistical significance could not be assessed because the control survival did not meet performance criteria). The risk potential in Pond A-5 for aquatic receptors from direct contact with bulk sediment appears to be low and No Further Accelerated Actions (NFAA) are necessary based on this exposure pathway.

Aquatic Receptor, Direct Contact with Surface Water: An ecological screening evaluation for surface water was not presented. No conclusions can be drawn regarding potential risks to aquatic receptors from surface water in Pond A-5.

Wildlife Receptor, Ingestion of Prey Items: It does not appear that aquatic tissue concentrations were measured for Pond A-5. No conclusions can be drawn regarding potential risks to wildlife from ingestion of prey items from Pond A-5.

B-SERIES PONDS

Ponds B-1, B-2, and B-3

These ponds have already undergone accelerated actions and were not assessed as part of the NE-1 report. It is assumed that the efficacy of accelerated actions in these ponds will be evaluated as part of the South Walnut Creek AEU assessment in the CRA (Volume 15B) using the confirmation sampling data collected after accelerated actions were completed.

Pond B-4

Aquatic Receptor, Direct Contact with Sediment: The ecological screen identified zinc, PAHs, and PCBs as sediment ECOPCs for the South Walnut Creek AEU. Based on a review of the AEU maps, these same ECOPCs are also identified for Pond B-4. Based on an evaluation of the HQs presented in Table B-2, risks from zinc and PCBs are likely to be low relative to low-moderate risks from PAHs. ESL HQs for most PAHs were above a level of concern, with HQs above 20 for several PAHs. Outside of Pond B-4, PAH concentrations tended to be below the ESL or non-detect, suggesting that PAH contamination is specific to Pond B-4. Sediment toxicity tests for Pond B-4 showed 91%

survival for *Hyalella azteca* and 62%[2] survival for *Chironomus tentans* (however this decrease was reported to be not statistically significant). The aquatic community studies indicate that flow conditions are most likely to influence the amount of available habitat and the aquatic community present in the South Walnut Creek AEU. Given that the PAH and PCB HQs for Pond B-4 are elevated and one of the two sediment toxicity tests showed decreased (albeit not statistically significant) survival, conclusions regarding potential risks to aquatic receptors cannot be made with a high level of certainty. However, despite the limitations of the available data, it is generally agreed that risk potential to benthic invertebrate receptors from direct contact with bulk sediment is likely to be minimal to low and that No Further Accelerated Actions (NFAA) are necessary based on this exposure pathway.

Aquatic Receptor, Direct Contact with Surface Water: An ecological screening evaluation for surface water was not presented. No conclusions can be drawn regarding potential risks to aquatic receptors from surface water in Pond B-4.

Wildlife Receptor, Ingestion of Prey Items: It does not appear that aquatic tissue concentrations were measured for Pond B-4 (only data from Pond B-5 are discussed). Because PCB concentrations in sediment appear to be elevated in Pond B-4 relative to other areas within the AEU, the bioaccumulation potential of PCBs into aquatic prey items should be assessed for this pond. No conclusions can be drawn regarding potential risks to wildlife from ingestion of prey items from Pond B-4.

Pond B-5

Aquatic Receptor, Direct Contact with Sediment: Although the ecological screen identified several sediment ECOPCs for the South Walnut Creek AEU, none of these ECOPCs appear to be of potential concern in Pond B-5. With few exceptions, all of the sediment samples from Pond B-5 were below the ESL. Sediment concentrations of barium, iron, nickel, zinc at one sample location and fluoranthene at two locations were between the ESL and toxicity threshold, but all other sample locations were either non-detect or below the ESL. However, the frequency and magnitude of these exceedances does not indicate significant impacts to benthic invertebrates in Pond B-5. Although not discussed, sediment toxicity tests (presented in DOE, 1995 Table N5-5) show that *Hyalella azteca* survival (60%[1]) and *Chironomus tentans* survival (72%) were lower than control survival but decreases were not reported to be statistically significant. The aquatic community studies indicate that flow conditions are most likely to influence the amount of available habitat and the aquatic community present in the South Walnut Creek AEU. It is generally agreed that there is a low risk potential in Pond B-5 for aquatic receptors from direct contact with bulk sediment and that No Further Accelerated Actions (NFAA) are necessary based on this exposure pathway.

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[2] For Pond B-4, there was a 20% decrease in *Chironomus tentans* survival compared to the control (control = 82%, site = 62%). For Pond B-5, there was a 29% decrease in *Hyalella azteca* survival compared to the control (control = 89%, site = 60%). In both cases, Table N5-5 in DOE (1995) identifies these decreases as not statistically significant. Table N5-5 does not provide enough detail to verify the reported statistical significance.

Aquatic Receptor, Direct Contact with Surface Water: An ecological screening evaluation for surface water was not presented. No conclusions can be drawn regarding potential risks to aquatic receptors from surface water in Pond B-5.

Wildlife Receptor, Ingestion of Prey Items: While a formal ecological screening evaluation for this exposure pathway is not presented, a qualitative assessment of potential risks to wildlife from PCBs is provided in the text. The text states that measured fish tissue levels of PCBs in Pond B-5 were below effects thresholds for fish-eating birds. Unfortunately, no quantitative results for PCBs are provided, no discussion of other analytes in dietary items is presented, and the nature/source of the effects thresholds cited is not discussed. Based on the available data as presented, and assuming that the Agency agrees with the conclusions of the supporting document for this line of evidence, it appears that potential risks to wildlife from Pond B-5 are likely to be low.

C-SERIES PONDS

Pond C-2

Aquatic Receptor, Direct Contact with Sediment: Although the ecological screen identified several sediment ECOPCs for the Woman Creek AEU, with the exception of zinc, none of these ECOPCs appear to be of potential concern in Pond C-2. For zinc, sediment sample concentrations were between the ESL and toxicity threshold. The magnitude of these ESL exceedances indicates low to moderate risks to benthic invertebrates in Pond C-2. Although not discussed, sediment toxicity tests for C-2 (presented in DOE, 1995 Table N5-5) show that *Hyalella azteca* survival (96%) does not appear to be adversely impacted due to contaminants in sediment. The aquatic community studies indicate that flow conditions are most likely to influence the amount of available habitat and the aquatic community present in the Woman Creek AEU. Based on the data presented, it appears that there is a low risk potential in Pond C-2 for aquatic receptors from direct contact with bulk sediment and that No Further Accelerated Actions (NFAA) are necessary based on this exposure pathway.

Aquatic Receptor, Direct Contact with Surface Water: An ecological screening evaluation for surface water was not presented. No conclusions can be drawn regarding potential risks to aquatic receptors from surface water in Pond B-4.

Wildlife Receptor, Ingestion of Prey Items: It does not appear that aquatic tissue concentrations were measured for Pond C-2 (the appendix only discussed data from Pond C-1). No conclusions can be drawn regarding potential risks to wildlife from ingestion of prey items from Pond C-2.

In general, the follow recommendations will facilitate the review of the document:

- Please provide a tabular summary of all the pond-specific sediment toxicity results (similar to Table N5-5 provided in DOE (1995)).
- Please provide a tabular summary of the measured aquatic tissue results and comparisons to wildlife effect thresholds. Please also include a brief summary of the nature/source of the effects thresholds for wildlife that were used to evaluate potential risks from ingestion of aquatic prey items.
- In order to address the potential for combined effects from multiple PAHs, please provide a total Hazard Index (HI) summed across all PAH HQs.
- The same information on Threshold ESLs (Attachment 2) is repeated Appendices A, B, and C. Please collapse these three attachments into a single stand-alone appendix (i.e., Appendix D) which provides the Threshold ESLs used in each AEU.
- Much of the same Aquatic Ecosystem Health information (Attachment 1) is repeated in Appendices A, B, and C. Please collapse these three attachments into a single stand-alone appendix (i.e., Appendix E) which provides a comprehensive summary of aquatic ecosystem health in each AEU.

Required Distribution:

M. Aguilar, USEPA
S. Bell, DOE-RFFO
J. Berardini, K-H
B. Birk, DOE-RFFO
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